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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,381	02/10/2004	Peter Dawson	DAWSON-001	9951

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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/775,381	Applicant(s) DAWSON, PETER	
	Examiner Tho v Duong	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,11-24,26-35 and 38-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,8-10,25,36 and 37 is/are rejected.
- 7) ☒ Claim(s) 1-5,8-10,25,36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 6-7,11-24,26-35 and 38-44 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group and species, there being no allowable generic or linking claim. Election of group I, species A and 6a was made **without** traverse in the reply filed on 1/13/2005.

Applicant is required to correct the identifier of claim 8 from “Withdrawn” to “original” since claim 8, has not been withdrawn.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Flat Plate Heat Exchanger.

The disclosure is objected to because of the following informalities: the term “coil”, which has an ordinary means of a series of loops or spiral, has been used to describe a flat heat exchanger throughout the disclosure. However, there is nothing in the drawings or description relating to a series of loops or spiral.

Furthermore, since claims that direct to a method of cleaning the heat exchanger have been withdrawn from further consideration, applicant is required to re-write the abstract because the abstract should reflect only the invention claimed in this application.

Appropriate correction is required.

Claim Objections

Claims 1-5,8-10,25 and 36-37 are objected to because of the following informalities: the term “coil”, which as an ordinary means of a series of loops or spiral, has been claimed. However, there is no drawings to support the coil feature. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said at least one pressure resistor member" in line 1 and “said at least one pressure restraint member”. There is insufficient antecedent basis for this limitation in the claim.

Claims 8 and 9 are further rejected as can be best understood by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-4 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Iio et al. (US 5,400,854). Iio discloses (figures 1,4 and 6) a bulk material heat exchanger comprising a plurality of heat exchanger coil (2) arranged side-by-side in a spaced relationship, each flat plate heat exchanger coil (2) having a body with two opposing side sheets (26,27) that are substantially smooth, two opposing longitudinal edges and two opposing transverse edges where the two side sheets are sealed to each other along the borders of the two transverse edges and the two longitudinal edges, defining an open interior space; a heat exchange medium inlet nozzle (narrow opening of core 2 shown in figure 6) in fluid communication with the open interior space and a heat exchange medium supply manifold (4) attached to each inlet nozzle; a heat exchange medium exit nozzle (narrow opening of core shown in figure 6) in fluid communication with the open interior space; at least one flow diverter (3) include a strip material with at least one bend positioned within the open interior space to create a heat exchange medium flow path; at least one pressure resistor/pressure restraint member (14) positioned within the open interior space with one end attached to the interior surface of the side sheet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iio et al. (US 5,400,854) in view of Middlebrook (US 6,293,264) Iio substantially discloses all of

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applicant's claimed invention as discussed above except for a closed loop of cooling system. Middlebrook discloses (figures 11-12) a plate heat exchanger having a high temperature flow (air) which is cooled by a low temperature flow (water) wherein the coolant return manifold attached to a vacuum source (inlet of pump 31) to draw coolant from the heat exchanger and to provide the coolant to the heat exchanger from the outlet of the pump (31). It is clearly that the cooling system is a closed loop system for the purpose of effectively cooling the high temperature flow without providing a continuous external source of coolant. Since Iio and Middlebrook are both from the same field of endeavor and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Middlebrook's teaching in Iio's heat exchanger for the purpose of effectively cooling the high temperature flow without providing a continuous external source of coolant.

Allowable Subject Matter

Claim 5 would be allowable if rewritten to overcome the objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

C. F. Rosenblad (US 3,280,906) discloses a flexible plate heat exchanger.

Abiko et al. (US 6,840,313B2) discloses a plate fin type heat exchanger.

Pfugger et al. (US 4,016,929) discloses a closed cooling loop of refrigerant.

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Nakako et al. (US 3,792,842) discloses a rectifying tower.

Nicholson (US 4,183,403) discloses a plate type heat exchanger.

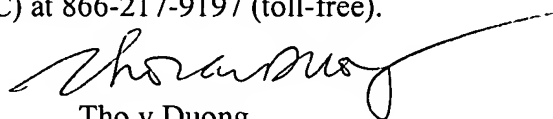
Fischel et al. (US 3,847,211) discloses an interchange system for fluids.

Foust (US 4,276,927) discloses a plate type heat exchanger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho v Duong
Examiner
Art Unit 3743



TD
March 24, 2005